

KILLING FEVER TICKS.

Promising Experiments Undertaken by the Agricultural Department.

GUY ELLIOTT MITCHELL.

To stamp out Texas cattle fever. This is the hope of the Department of Agriculture. The Department has been working on the problem for some time, and it has almost been proved to the satisfaction of officials that the tick which causes the fever can be eradicated from a pasture simply by keeping cattle out of that pasture. The tick is not a herbivorous insect, and it will die out if the pasture is kept free of cattle. It is believed that if one pasture on a farm is always kept free of cattle over what might be termed the life period of the tick, it will furnish perfectly safe pasturage for uninfected animals in case fever breaks out in the rest of the herd.

Of course, the Department of Agriculture has no right to go into a State and enforce the free pasturage policy, and the matter cannot be, or at least is not, always dealt with satisfactorily by State officials. But in cases where the Department is officially invited to come into a State and take charge of cleaning it up, it is quite ready to do so. Tentative arrangements have already been made for this work with the authorities in some States, and it is believed that it will be quite possible to stamp out the fever and allow the free interstate transportation

that they will produce a fever-resisting strain that will be a valuable acquisition to the cattle men of the South-west.

These two experiments of Uncle Sam's farm department hold out a promise of very great importance to the live-stock industry, and consequently to all meat consumers.

The Manure Pit.

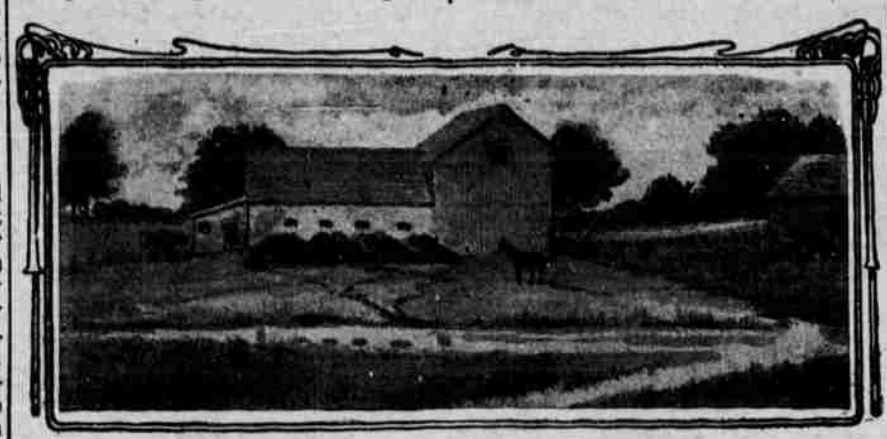
Where is the wise farmer who would sell to his neighbor a load of his finest corn or a load of some green crop for a dollar bill. Yet there are thousands of agriculturists all over the country who are doing practically this very thing when they dispose of their barnyard manure for \$1 a load. Others are wasting the most valuable constituents of the manure they save. The manure produced on the farm is its most valuable asset.

There are in the United States, in round numbers, 17,000,000 horses, 61,000,000 cattle, 47,000,000 hogs and 45,000,000 sheep. Experiments have shown that if these animals were kept in stalls or pens throughout the year, and the manure, both liquid and solid, carefully saved, the approximate value of the manure produced by each horse

into practice the new idea that the manure should be as carefully preserved from unnecessary loss, as should any other farm product, after he has for twenty years stored the farmyard manure under the eaves upon the slope which forms one border of the running brook.

Experiments made by various Government experiment stations show that the construction of sheds or covered yards for the protection of manure is well worth while. The manure from the horse and cattle stables and the sheep and calf pens should be spread

strated that the value of the manure obtained in cattle feeding represents largely, if not entirely, the profit of feeding. There are sound, scientific reasons for the high esteem in which farm manure is held. It contains all the fertilizing elements required by plants in quickly available forms that insure plentiful crops and permanent fertility. It supplies nitrogen, phosphoric acid and potash, and it also renders the stored-up materials of the soil more available, makes it more friable and warmer, and enables it to retain more moisture.



THE WASTE OF BARNYARD MANURE.

out evenly over these yards, covered with coarse litter, and the whole kept firmly packed by allowing animals to run over it, thus preventing injurious fermentation.

To Save All the Fertility.

A more elaborate and expensive style of covered yard, a plan for which is furnished by the Department of Agriculture, provides not only for the required protection of both animals and manure, but also affords an excellent grain chamber where feed can be stored for convenient use. Under the side roofs is also afforded a chance for the storing of small tools and a great variety of articles that are continually in the way when lying about the farm buildings. It also provides splendid protection to animals when housed at night during the summer, this roof protecting them from heavy showers in the night and affording good chance for exercise in the winter, as all the sides, except that toward the south, can be protected against cold winds through temporary boarding.

Many stables are so situated that by adding a cheap lean-to, a manure "pit" is easily produced. The outside boarding of the lean-to should be, for a part of the way at least, put horizontally and hung in the form of flat doors, so that the manure can be easily loaded on a wagon standing on the outside of the building.

A great number of farmers who have adopted manure sheds and covered

Rattlesnake Den.

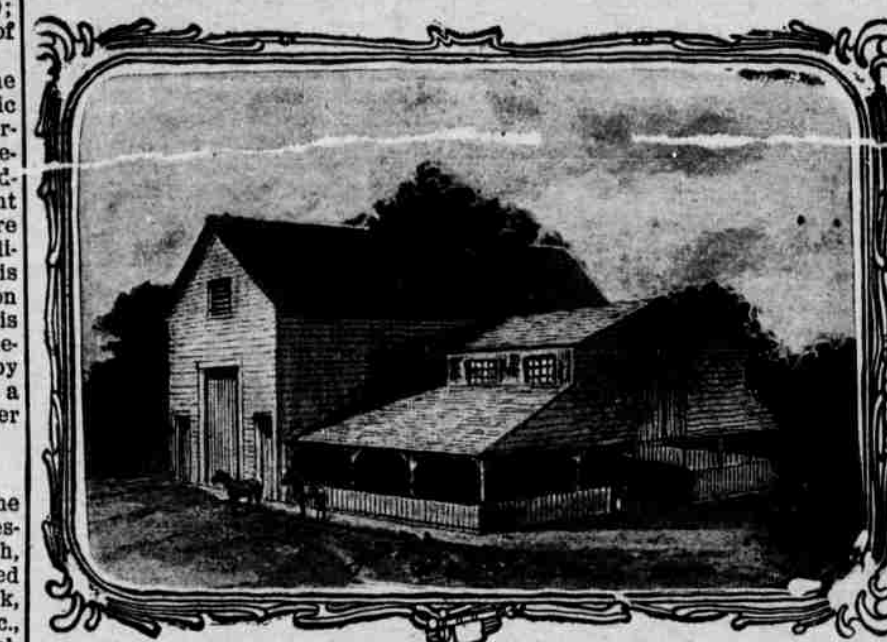
We were lumbering in central Pennsylvania during the summer of 1870, our portable steam mill standing in a piece of woodland, near a small stream and within a short half mile of a rocky ledge, known as "Rattlesnake Den."

During the hot days, rattlers were constantly met, and "Harry," who drove the daily stage through the "Narrows," had won quite a local reputation from having killed more than a score since the melting of the snows.

The pretty young wife of our engineer had charge of the boarding house, and after the noon meal was served, the dishes cleared away and the house put in order, she was accustomed to bring her sewing into the shade near our Planer, which was the cleanest and coolest part of the mill, and sit for an hour or two before commencing the preparation of the supper.

She was a sweet, attractive sight that hot afternoon of which I speak, her beautiful arms and neck rivaling the whiteness of her simple frock, the only female in our camp of rough, brawny men, but one whom any of us would have defended from all harm at any risk.

Some of the men were rolling up the logs on the skid, some sawing them into boards, others carrying the boards to the yard, while my partner, Manuel Motz, was personally tending to the more skillful work at the planer, in



A CONVENIENT COVERED BARNYARD.

yards have obtained unsatisfactory results, but the Department of Agriculture believes that this is probably due to the fact that these structures have generally been loosely put together, allowing a free circulation of air, which has dried out the manure. On this account barn cellars, so common in New England, possess decided advantages as receptacles for manure. The common practice of allowing swine to "work over" the manure in these cellars is a wise one, since it mixes the manure and keeps it well packed and moist. In fact, if these cellars are provided with impervious bottoms to hold the liquid manure, this system of storage is probably the most perfect practice.

Manure the Best Fertilizer.

Barnyard manure is the most effective means at the disposal of the average farmer to permanently improve his soil. No other fertilizer possesses to so great a degree the power of restoring worn out soils to productivity and giving them lasting fertility. It provides actual fertilizing constituents; it improves the physical properties of the soil, increasing the amount of humus, which is generally deficient in worn soils, bettering its texture and increasing its water-absorbing and water-holding power. Experiments have shown that the influence of manure may be perceptible twenty years after application. It directly represents fertility drawn from the soil and must be returned to it if productivity is to be maintained. In many cases it has been demon-

strated that the value of the manure obtained in cattle feeding represents largely, if not entirely, the profit of feeding. There are sound, scientific reasons for the high esteem in which farm manure is held. It contains all the fertilizing elements required by plants in quickly available forms that insure plentiful crops and permanent fertility. It supplies nitrogen, phosphoric acid and potash, and it also renders the stored-up materials of the soil more available, makes it more friable and warmer, and enables it to retain more moisture.

"Pretty close call, May," he said cheerily, "but it's easy when you know the trick."

May had been perfectly cool and obedient till the danger was past, and then, womanlike, she quietly swooned away, and for a day or two we did our own cooking.

Automobiles are now running a mile in less than half a minute, and two miles in one minute.

BEWARE OF NOSTRUMS

(OR CHERRY CIGARETTES)

Which taken into the stomach to cure a complaint are liable to create a habit for strong drink.

THE PRINCIPLE OF ABSORPTION

Is the surest means of curing disease. The action of nearly every drug is three or four times greater if absorbed by the skin—than if swallowed.



HOLMAN'S LIVER PAD

Is the only safe and sane method of treating liver and stomach complaints. The tonic properties of the Holman Liver Pad enter the system through the nerves and circulation, just where you need it.

For the cure of all complaints due to indigestion, condition of the stomach, liver or kidneys its action in restoring a healthy condition is wonderful.

The Holman Liver Pad causes to be removed from the system all poisons, leaving the various organs free to perform their functions under natural conditions, thus insuring health.

For the positive and absolute cure of Malaria the Holman Liver Pad has never been known to fail. It is a Positive Preventive of Yellow Fever, Typhoid Fever, Smallpox, Diphtheria and Biliousness.

Having used your Pad for some months past, both in my practice and family, I unhesitatingly recommend them to the profession and public for all diseases of the liver and stomach. The Pads have never failed to give me entire satisfaction. Very respectfully, W. N. JUDSON, M. D., ATLANTA, GA.

FREE TRIAL.

If you desire to give the Holman Liver Pad a Free Trial mail the coupon to Holman Pad Company, 39 Cortland St., New York.

COUPON.

HOLMAN PAD COMPANY. Mail me one of your Liver Pads which I promise to wear according to directions if I find myself benefited after wearing same 2 weeks I agree to remit \$2.00, otherwise the pad will be returned to you.

Name.....

Street.....

City & State.....

A. M.

Your Money Back If You Want It.

Will bring you by mail a 2 oz. box of either Vanilla Crystals, Orange Lemon, Almond, Clove, Nutmeg, Rose or Cinnamon Crystals.

The best flavoring ever made. Non-Alcoholic and Unchangeable in Cooking. Superior to any 25c. bottle of Liquid Extract.

Endorsed by U. S. Food Commission.

Send 10 Cents today to

JOS. BUTLER CO., 17 Battery Place, - N. Y. City.

CONSUMPTION

CURED BY Lung-Germine

Not just one case alone but hundreds of cases where all year Lung-Germine was given. It was the only medicine that cured them. We will send you a bottle of Lung-Germine free of charge if you will send us a letter stating that you have been cured of consumption by using Lung-Germine.

READ THIS ONE.

Mr. Wm. Schmidt, of 1904 Coleman St., St. Louis, Mo., writes: "I had Consumption in its worst form and was given up to die. One day I saw your ad for Lung-Germine. I sent for it. Doctors and friends laughed at me, but I was determined to try this medicine as a last resort to save my life. I had a family of eight children to care for. Today I am well and strong. If any one has a doubt about this statement I am able to furnish proofs from different hospitals and doctors and other reliable men."

Absolutely Guaranteed

to Give Positive Relief Within 30 Days

Lung-Germine, the great germ destroyer, was discovered by an old German doctor-chemist and has cured hundreds of cases of consumption, bronchitis, asthma and catarrh in Germany and in this country.

It has stood the most rigid tests so often and so well, it has brought hope and life to so many hundreds who were afflicted with consumption and had lost all hope, and it has given the superior value in destroying the Tuberculous germs in so many cases that it is used today and recommended by numerous large institutions and health resorts. And positive proofs of all these facts we will give to you freely.

If you have consumption or any of its symptoms, coughing and hawking continually, spitting yellow and black matter, bleeding from the lungs, weak voice, flat chest, night sweats, and general debility, pain in chest, wasting away of flesh, etc.

You may have a FREE trial treatment sent you at once, together with a booklet on the treatment and care of consumption by simply sending in your name.

Don't Delay—Write Today

Your life may be at stake. Your letter may save you months of torturing illness and prolong your life to good old age. To wait means too late in many cases. Will you be one of those?

Lung-Germine Co., 385 Weber St., Jackson, Mich.

Marvelous Growth of New Hair.

To Prove It, I Send a Trial Package Free By Mail.



My discovery actually grows hair, stops hair falling out, removes dandruff and quickly restores luxuriant growth to shining scalp, eyebrows and eyelashes, and quickly restores gray or faded hair to its natural color. Write to-day.

CUT OUT THIS COUPON

For this offer may not appear again. Fill out the blanks and mail it to J. P. Stokes, Mgr., 5184 Foss Building, Cincinnati, Ohio, enclosing a 5-cent stamp to help cover postage.

I have never tried Foss Hair and Scalp Remedy, but if you will send me a trial package by mail, prepaid, free, I will use it.

Give full address—write plainly.

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CATTLE INFECTED WITH TEXAS FEVER.

of cattle, which is now prohibited. The saving in money and the convenience to shippers of this arrangement can easily be understood.

To Introduce Cattle from India.

While this quarantine and extirpation work is going on, a similar experiment on different lines directed to the same end will soon be under way. There have been imported to some of the Texas ranges specimens of the Indian sacred cattle, and it has been found that they were immune to the Texas fever. Apparently there is an oil in the skin that is repugnant to the tick. At any rate they will not harbor the parasite. The half-bloods and even animals containing but one-sixteenth part Indian blood have been found immune, and they make just as good beef cattle as can be found.

There are very stringent laws against the importation of foreign stock into this country without thorough examination and quarantine; therefore it is risky to import stock from so far away as India without special provisions for its examination. Mr. A. S. Borden of Pierce, Tex., has arranged, however, with the Agricultural Department to make a large importation of the immune Indian cattle, and has already left for British India to pick them out. The Department of Agriculture will send a special veterinary after him, and the first shipment of about 100 head will be

annually would be \$27, by each head of cattle \$19, by each hog \$12 and by each sheep \$2. The fertilizing value of all the manure produced would, therefore, be for horses, \$459,000,000; cattle, \$1,159,000; hogs, \$564,000,000; and sheep, \$90,000,000, or a total of \$2,272,000,000.

These estimates are based on the values usually assigned to phosphoric acid, potash and nitrogen in commercial fertilizers, and are possibly somewhat too high from a practical standpoint. On the other hand, no account is here taken of the value of manure for improving the mechanical condition and drainage of soils which is almost as important a consideration as its direct fertilizing value. It is generally conceded that at least one-third of the value of manure is lost by present wasteful management or a total loss to the country of over \$750,000,000.

Return Full Value to the Soil.

If a farmer desires to maintain the productivity of his land, it is essential that the amount of potash, phosphoric acid and nitrogen removed through the selling of meat, milk, grain, hay, fruits, vegetables, etc., should be restored through an intelligent conservation of the barnyard manure.

It seems to be a hard matter to induce the average farmer to abandon the time-honored practice of piling



RYE GROWN ON WELL MANURED LAND. TYPICAL CROP WHERE MANURE IS WASTED.

examined before they are shipped, and then quarantined on one of the small islands off the Gulf coast till it is determined that there is no danger of their bringing into this country some strange bovine affliction even worse than Texas fever.

After the animals have been thoroughly proven, they will be introduced among the Texas herds, and it is hoped

manure in the open air, exposing it to leaching by rains and fermentation by hot mid-summer suns, and adopt rational scientific methods. He also hesitates to incur the necessary expense of building suitable receptacles for the storage of manure, frequently assuming that this expense is greater than it really is. Manure is considered a waste and it is hard for him to put

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OVER 3 1/2 FEET LONG

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This is a large powerful achromatic Telescope for Terrestrial and Celestial use. This Telescope is provided with an adjustable solar eyepiece. With this wonderful eye-piece you look the sun square in the face on moonlight and hottest day, and study its face as you do the moon at night. Every student, male or female, should have this Telescope to study the sun in. It shows the mysterious sun spots which appear and disappear at intervals, and shows about a different location of the sun. You will regret it if you neglect to secure this Telescope. A positively such a good Telescope was never sold for this price before. These Telescopes are made by one of the largest manufacturers of Europe, and are 5-1/2 inches in circumference. They measure closed 18 inches and open 5-1/2 feet in length, and with powerful lenses, scientifically ground and adjusted. Guaranteed by the Maker. Merit.

Every astronomer in the country or at seaside resort should certainly secure one of these instruments and the farmer should be without one. Shipment miles away are brought to view with astonishing clearness. Sent by express fully packed, for only \$1.00. Sent by mail prepaid for \$1.10. Our new catalogue of Telescopes, sent with each order. This is a grand offer and you should not miss it. We warrant each Telescope just as represented or money refunded.

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Interesting Booklet, entitled "Telescope Talk," FREE with each order, or sent on request. This booklet tells all about the care of Telescopes, and about Eclipses of the Sun and Moon the evening and morning for year, where visible, etc.

A Telescope brings new brain cells into play, opens up new avenues of thought and broadens the scope of the mind.

WORTH MANY TIMES THE PRICE.

The Nation, New York, Nov. 4, 1904.

Messrs. Kirtland Bros. & Co.

Gentlemen—I have just received your telescope, and must say it surpasses all expectations. It is far superior to one which we have had, which cost \$15.00 some years ago. Just a few nights I have seen with it what more than double what it cost me.

COULD DISCERN BOATS FROM FIVE TO TEN MILES.

Mr. C. M. Medley, of Duluth, Minn., who purchased one of these Telescopes, says they are superior to anything he expected, that with it he could discern boats on the Great Lakes at a distance of 5 to 10 miles, and in clear weather he could read the names of steamers and other craft at a distance of one-half mile away.

Brandy, Va. Gentlemen—Please send another Telescope. Money enclosed. Other was a bargain, good as instrument. R. C. ALLEN.

SECURE THIS TELESCOPE AND TAKE A LOOK AT OLD SOL.

Never before sold on any Telescope for less than \$5.00 or \$10.00. Now is a chance to secure one for \$1.00.

This Telescope alone is worth more than its cost for the entire telescope, to all who wish to behold the sun in its tranquil beauty. Remove the solar eye-piece lens and you have a good, practical telescope for land observations. Address KIRTLAND BROS. & CO., Dept. A.M., 90 Chambers St., N. Y.